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✓ Sec 3 / 12-15-1835
A DISCOURSE

DELIVERED

AT THE OPENING OF THE

MEDICAL INSTITUTION

OF

GENEVA COLLEGE, STATE OF NEW-YORK,

FEBRUARY 10, 1835.

"Indocti discant, ament meminisse periti."
Let the unskilful learn, and the learned improve their recollection.

BY EDWARD CUTBUSH, M. D. 2-75-50
PROFESSOR OF CHEMISTRY.

GENEVA:
PRINTED BY JOHN GREVES & Co.
1835.

CORRESPONDENCE.

Geneva Medical College, February 13, 1835.

Dear Sir: In behalf of the Students of the Medical Department of Geneva College, we take this opportunity to express the high estimation in which we hold your very excellent Address delivered introductory to the course of Medical Lectures in this Institution. We are fully convinced that its publication would be productive of the most beneficial results to the Institution which has the honor of numbering among its faculty so venerable and highly talented a professor.

With sentiments of the utmost respect and esteem, we request a copy for publication; believing that, coming before the public in this manner, it would still further subserve the cause for which it was so admirably adapted.

Please to accept our sincere wishes for the improvement and continuance of your health during the exercise of your arduous duties,

While we remain, with affection and esteem,

Your obedient servants,

A. S. BALDWIN,

O. P. GEER,

Committee in behalf of the Students of the Medical College.

To EDWARD CUTBUSH, M. D.

Geneva, February 20, 1835.

To A. S. Baldwin and O. P. Geer, Committee, &c.

Gentlemen: I had the honor to receive yours of the 13th inst., in behalf of the Students of the Medical Department of Geneva College, with your highly flattering opinion of my address, delivered at the opening of the medical school; and your request that a copy may be furnished for publication. I feel sensibly this mark of your friendship, and consent to the publication, if you think that it will benefit the medical school.

Very respectfully,

I remain your servant,

E. CUTBUSH.



DISCOURSE.

I RISE, gentlemen, to address you on this important occasion. We have assembled under a deep responsibility to the public and to yourselves. The establishment of a new medical institution, is a subject particularly interesting to the friends of medical science, not only in this section of our country, but in the United States ; as it is probable that many, who may receive their medical education in this institution, may be called to exercise their profession in distant places, or to fill important stations in the navy or army of our country. Regarding the rising generation as the growing hopes of our country, I am sure that you will ardently wish success to our undertaking. To educate young men, that they may become eminently qualified to fill the vacancies which may occur in the different districts of our country, ornaments to society and a blessing to their fellow-creatures, I trust will meet with your approbation and cordial support. As the population of this section of country has advanced with so much rapidity, a necessity appears to have been created of extending the benefits of education, not only in the various branches of literature, but in that science which teaches to administer the balm of comfort to those who labor under the infirmities of age, or subject to the diseases incident to human nature.

It is generally admitted that the time has arrived when it is no longer necessary for young men of this section of our country, who have chosen the medical profession for their future usefulness in society, to travel to distant places to acquire instruction. With the progress of population, two medical institutions have been established in this state, and the time is not far distant when similar institutions may become necessary in many other places ; and why should they not be established wherever they may be required and competent instruction afforded ? No institution has the prescriptive right to retard the progress of science.*

"Medicina respublica est, non autem monarchia, multo minus tyrannus."—Baglivi.

Within my own recollection, there was but one medical institution of established reputation in the United States, which commenced under the fostering care of Dr. WILLIAM SHIPPEN, a pupil of the celebrated anatomist, HUNTER ; he laid the foundation of that

* Great opposition being made to prevent this establishment.

school with only nine pupils, and when I attended it, in 1790, the number did not exceed eighty, which now annually enumerates within its walls, from four to five hundred students. With the advancement of the population of the United States and the seeds which were sown by my medical alma mater, the number of regular institutions have been increased to seventeen or eighteen; and, notwithstanding this number, it has been justly remarked that, "until medical schools are more extensively established through the country, many who enter on the profession must necessarily be deprived of the privileges of a regular education;" and I am sorry to add, notwithstanding the facilities of late afforded, that there are many practitioners of medicine, who have never heard a public lecture or seen a demonstration in anatomy. There is no country, probably, except the United States, where public opinion tolerates the exercise of a profession without a competent education.

Should the institution flourish, which we open this day, how gratifying may be the thought that young men, educated within these walls, may, probably, at some future period, erect the standard of science in those distant parts of our country which are now enveloped in intellectual darkness, and carry with them the means of arresting the progress of disease. To prepare *you*, gentlemen, for this important duty of taking charge of the health and lives of our fellow-men, a course of regular, systematic study must be adopted; and to facilitate your instruction, the courses of lectures which have been decided on in this institution, though open to future improvement, will include

ANATOMY and PHYSIOLOGY,

The PRINCIPLES and PRACTICE of SURGERY,

MATERIA MEDICA and BOTANY,

OBSTETRICS,

MEDICAL JURISPRUDENCE or FORENSIC MEDICINE,

CHEMISTRY, and the

INSTITUTES and PRACTICE of MEDICINE.

On these branches of education permit me to make a few general remarks, in which we may view the boundaries of medicine. Boundaries, did I say? I retract it;—it is not confined to bounds: the woods, the waters, and the bowels of the earth, if carefully explored, may yet furnish remedies for those diseases which have been ranked as incurable, or we may still improve in the application of those which we already possess, by keeping pace with the advances which are daily making in the various branches of medical science. "Before the man of genius, the field of discovery enlarges;" but to

apply remedies with success, you must become acquainted with the parts of the human system on which they will efficiently operate. This knowledge presupposes an acquaintance with anatomy, physiology, and pathology, and, of course, the various textures of the body. You must know what constitutes health; what are the diseases to which the body is exposed—the seat, the cause, and the symptoms; the difference between organic and functional derangement; and learn to apply, with skill, judgment and firmness, the remedies best adapted to restore the lost balance of the general system. To enable you to do this, is founded the division of your studies.

ANATOMY

May be considered the pedestal on which the sublime superstructure of medical science and surgery is to be raised. He who is deficient in the minutiae of structure, and the functions which a part is destined to perform, cannot be considered a good surgeon: he may be a bold, mechanical operator, and sometimes a successful one, but unless he be intimately acquainted with the parts in a healthy and diseased state; unless, indeed, he knows how, when, where, and to what extent, to apply his knife, he is not entitled to the name of a surgeon in its modern acceptation. It has been truly remarked, by one well acquainted with the minutiae of anatomy, that “the surgeon’s knife may give health or death within the space of a hair’s breadth.”

I cannot do better, on the present occasion, than to quote a paragraph from an introductory lecture delivered sixty-nine years since, on the establishment of the medical school in Philadelphia, which embraces my ideas of the importance of anatomy. “It is anatomy that guides the doubtful step of the young votary of medicine through an obscure labyrinth, where a variety of minute objects present themselves in such a group as, at first, to perplex his imagination. It is anatomy which unravels the first difficulties in his pursuit; it lays open to his view the diversity of parts; their combination, disposition, subordination and movements. These, however intricate they may appear, all concur to establish the most perfect harmony in the human frame, which the attentive inquirer finds from anatomy to be created with the most geometrical exactness, according to laws prescribed by unerring wisdom.” If anatomy, at that period, was considered of so much importance to the student, what shall we say at the present day, in which the progress of science has unfolded the various textures or tissues of which the human system is made up,

and their distinctive characters. BISCHAT may be said to have unravelled the animal economy, and enlightened every branch of medical science. By means of minute anatomical demonstrations, the various parts of the animal body are philosophically traced ; the animal economy is unfolded, the causes of life and death are examined, and all the organs, their actions or functions, and their mutual dependence, each upon the other, investigated ; in short, he taught his disciples the organized elements of man. This examination of the minute structure of bodies, has likewise been extended to comparative anatomy. Many individuals have been engaged in exploring the animal system, with a degree of talent, industry, and success, before unknown. Those who take a deep interest in this branch of science, would do well to consult CUVIER ; his works present numerous observations on the structure of the different classes of animals. In the course of your studies, you will be led to admire the brilliancy of illustration which has of late been shed upon the elementary principles of the animal machine, the laws of combination and the various changes connected with the functions of vitality. In the study of physiology and pathology, exists the foundation of all medical doctrines ; from these arise the theory, or, if I may so term it, the philosophy of the art. Without a proper knowledge of these branches of science, it is impossible to draw a safe conclusion of the origin of the symptoms of disease, or apply the proper remedies. It is by the light of physiology and pathology that we discover the phenomena of health and disease ; by these, the physician analyzes, if I may be allowed the expression, the cause and symptoms of diseases, and by this knowledge he is known from the empiric, who, it must be acknowledged, often acquires reputation and even wealth : this, however, must be ascribed to the credulity of mankind ; hence it has been said that " Quacks are the greatest liars in the world, except their patients, who exaggerate the cures." Be this as it may, the more you know, gentlemen, of the minutiae of anatomy, physiology, and pathology, by so much the more will you acquire a pre-eminence in your profession, and be enabled to apply the remedies which the materia medica affords you, with effect : and as surgeons to operate with success. To become conversant with disease, in all its Protean forms, you must study the various functions of all parts of the animal system, that you may know what constitutes health : and disease, being the result of some change produced by one or more causes, acting on the organs or tissues externally or internally, by which the natural order of the functions is deranged, requires close investigation,

to enable you to apply the remedies suited to the indications: "every curative method should have for its object the restoration of the altered vital properties to their natural type."

OBSTETRICS.

This is another highly important branch of a medical education. Delicacy has thrown a veil around this subject which precludes all remarks before this audience. It may not, however, be improper to state, that Dr. WILLIAM SHIPPEN, of the Philadelphia school, by his suavity of manners and correct deportment, was the first to remove those prejudices, which had long existed in this country, in opposition to male accoucheurs; and I trust that his pupils, and those whom they have instructed, have never violated the laws of strict propriety in their professional intercourse.

MEDICAL JURISPRUDENCE OR FORENSIC MEDICINE.

This branch of the course will be of intrinsic value to you, should you be called upon to give your testimony in courts of justice. It is only within a few years that it has formed a part of a medical education, though it was a subject which called forth the talents of FIDELIS and ZACCHIAS in the seventeenth century. To enable you to perform this important duty, you must not only be acquainted with every branch of medical science, but with the anatomy of the mind. The operations of the mind on the body, and the body on the mind, form a highly interesting subject for your particular investigation, both in health and disease. The play of the passions on the functions, and even on the structure of the brain, which might lead to crime, has not been duly appreciated by medical men. You must remember that, by your testimony, some unfortunate fellow-being may be incarcerated for years, his reputation be blasted, or be deprived of his life. On you may likewise rest important decisions on the transfer of estates by *will* or by *deed*; surely, this also is highly important: widows and orphans may be involved in difficulties, nay, in ruin, by your testimony: and many curious questions, and subjects of a highly delicate nature may be presented for your decision, affecting the conjugal state. It is not my intention, however, to enter on the consideration of those cases which may be submitted to your judgment; all these will, no doubt, be ably discussed by the professor of medical jurisprudence; but when the life of an individual is in jeopardy from death, supposed to have been produced by the administration of poison, be cautious, I pray you, how you decide, from the use of

chemical tests, that life may not depend on "the shadow of a shade:"* and banish that definition of insanity, which would make us all fit candidates for a lunatic asylum. The learned Dr. GREGORY remarks: "Nullus tamen existit limes accuratus inter sanam mentem et vesaniam. Omnis præter solitum hilaritas ad insaniam vergit, et mæstus et meticulosus animus ad melancholiam appropinquat;" and it has been added, that every *extravagance* in human affairs and pursuits borders on insanity. If this be a true definition, gentlemen, we are all non compos mentis, subject to different states of insanity.

MATERIA MEDICA AND BOTANY.

By materia medica we are to understand that it is a science which treats of the natural history and virtues of all those bodies which are "capable of procuring certain changes in the condition of the living system, whereby its morbid actions may be entirely removed or advantageously controlled." In this definition I would include the operation of the gases and all the necessary restraints and specific remedies for the diseases of the moral faculty.

It is doubtless of great importance to the physician and surgeon, to become acquainted with the remedial articles which the animal, vegetable and mineral kingdoms afford; and united to botany, it may be termed the natural history of medicine. No branch of medical science has undergone so many changes as the materia medica. Many remedies which time had sanctioned, and which had received the unqualified support of the best and wisest men of former times, and, indeed, of our own time, have been abandoned, and nothing but blind superstition or ignorance will now tolerate their use: such, for example, as the bones and hoofs of animals, pulverized dead men's skulls, Egyptian mummies, album Græcum, sperma renarum, sterco-ra vacca, pavonis, porcinum et anseris in cerevisia, cum multis aliis, over which delicacy must throw a veil. One article, however, the tela arenarium, has, in this enlightened era, found favor in the eyes of a grave professor, and its use has been almost as fashionable, under his auspices, from the learned judge to the court beadle, as Swaim's Panacea and other wonder-working remedies. And last, though not the least, is the touch of a royal hand or that of a seventh son, for the cure struma. Most of these, with the superstition of former times, which contributed to the strut of mystery, have in great measure passed away, though we still have those who predict a male or female embryo, by inspecting the excretion of the kidneys. I forbear enumerating more of these absurdities; the introduction of

* I allude particularly to the various opinions on the tests for arsenic.

such a list of contemptible articles into the *materia medica*, almost induces me to disown my English ancestry. How fortunate it is, gentlemen, that you have been born in the nineteenth century, when the light of science has banished this farrago of feculence from our books of medicine, and dispelled the slavish ignorance which would submit to their use. New remedies have been introduced, more congenial with sober reason and sound *common* sense. This depends upon the change which has taken place in our views of diseases and their treatment. The educated physician of the present day, has abolished the farrago of incongruous articles which formerly entered into pharmaceutical preparations. The rational and scientific physician selects a few choice remedies, with the operation of which he makes himself well acquainted, that he may apply them with judgment and effect. To extend the number of these, permit me to direct your attention to the indigenous productions of our country: they are numerous, and among them, no doubt, there are many which would supersede the necessity of importing articles of foreign origin. Many of the late European publications treat of remedies which have been within our reach since the first settlement of the country, and which, except in a few instances, have been disregarded. Why should we be thus tributary to Europe for information on our indigenous productions? To those of you who wish to become acquainted with the various changes which the *materia medica* has undergone, depending on fashion, superstition, credulity, scepticism, false theories, or blind devotion to authority, I refer you to PARIS' Pharmacologia. To enable you to examine the indigenous productions of our country, BOTANY is indispensably requisite; by it you will be enabled to arrange them into classes, orders, genera, and varieties: it will, likewise, lessen the labor of investigating their virtues; as all plants of the same natural order have more or less a common virtue. It is not my wish, however, by this remark, to restrain your ardor for experimental inquiry: on the contrary, I would have you apply your knowledge of organic chemistry, to obtain the *active* principles of all the vegetable productions of our country. Permit me to caution you against the unnecessary introduction of new names for plants which are already known, though not their medicinal virtues; mere caprice of individuals has introduced a great number without any correspondent advantages. This rage for the coining of new names, both in botany and mineralogy, has had a tendency to impede the cultivation of these sciences, by rendering them mysterious and unintelligible. The next branch of a medical education, and not the least, in my humble opinion, is

CHEMISTRY.

It is divided by some authors into philosophical and medical chemistry ; a division which cannot, with propriety, be adopted by me, as the general bearing each upon the other, involves many important subjects which will claim our attention. This interesting branch of science is cultivated by all who desire to become acquainted with the sublime truths which it unfolds in the various operations of nature, which have elevated it to that distinguished rank in the scale of sciences which it now holds, and to which it is so justly entitled. Many persons, who know nothing more of chemistry than the name, consider it simply as an art practised by chemists and apothecaries, who are supposed to be employed in the preparation of articles for the physician ; but were they to enter the temple of this alluring science, they would be convinced of its intimate connexion with almost every branch of human knowledge, and that the arts, agriculture and manufactures, so eminently conducive to the prosperity of nations, could not have arrived at the present period of comparative perfection, without the aid of the philosophical chemist. Chemistry is the anatomy of matter ; its object is to discover the component parts of bodies, to show their mutual and intimate action on each other, and, if necessary, to form new compounds or reduce them to their ultimate principles. It has contributed, in various ways, to enlarge the boundaries of knowledge ; it has been made subservient to medical science, by demonstrating the various changes which occur in the component parts of the human body, under the different conditions of health and disease ; and, consequently, it has thrown much light on the secret operations of the animal economy. To chemistry we are indebted for our knowledge of the active medicinal properties of many articles of the *materia medica*. The active principle of many vegetable productions has been separated, by adopting a refined method of experimental inquiry, which has furnished the practitioner of medicine with many valuable remedial articles. To the French chemists, we are particularly indebted for many of the most active vegetable productions. Our modern pharmacopœias include a list of important remedies which chemistry has supplied ; and permit me to add, that it is unpardonable in a practitioner of medicine, to be ignorant of its first laws. While those who have the misfortune to fall under his care conceive that they are taking the health-inspiring draught, his ignorance of chemical affinity may have furnished an inert or deleterious compound. As most of you will, probably, exercise your profession in the country, a knowledge of chemistry and its application to pharmacy is indispensably necessary, to pre-

vent you from prescribing incompatible substances ; or, if you should establish yourselves in a city, how mortifying it would be to have the errors in your prescriptions pointed out by an apothecary's apprentice. A great revolution is taking place in most of our cities, which I trust will extend to all parts of the country ; Philadelphia has taken the lead ; *there* a school of pharmacy has been established, to enable young men to acquire a competent knowledge of the materia medica, pharmacy and chemistry ; regular lectures are delivered during the winter season, on these subjects, and a cabinet of the best specimens in the materia medica has been procured for examination and comparison. "A diploma is annually conferred on those young men who have attained the age of twenty-one years, and have served an apprenticeship of at least four years, (*mark it, gentlemen, four years,* to the business of an apothecary,) and have attended two full courses in the institution, and have passed with credit through an examination conducted by the professors, in conjunction with a committee appointed by the trustees of the college. No law of the state makes it obligatory on young men to attend these lectures ; but public opinion, in an enlightened community, will support such only as have submitted their qualifications to this test. On the continent of Europe, the regulations are very strict : it is not every one who can open an apothecary's shop at pleasure : he must submit to an examination before a number of physicians and pharmaceutists, to obtain a license ; and even then, the door of his shop may be closed by a *proto medico*, if he is known to keep or vend adulterated articles. "In London, such is the *credit* of some establishments, that one thousand guineas have been offered to the proprietors as a fee with an apprentice." And why should the lives of *our* citizens be the sport of every man who can buy a few ounces of drugs ? The medical profession is restricted, in this state, except satisfactory evidence be produced of the qualification of a candidate to exercise his profession : why then should not some evidence be required of those who are engaged in compounding and vending medicines ? A journal of pharmacy is published in Philadelphia under the direction of the college of pharmacy ;* from the general knowledge which I possess of the leading characters of the gentlemen who compose that establishment, I would recommend the journal to your particular patronage, by which you would become acquainted with the pharmaceutic knowledge of Europe and America.

* Since the delivery of this lecture I have ascertained that the College of Pharmacy was chartered in 1822, and the school established soon after.

There is no branch of science more rich in topics worthy of your attention, than chemical philosophy; and none, I am sure, more intimately connected with the progress of the arts of life. It would be almost an endless task to point out to you the benefits which have been derived, by the cultivation of chemistry, to the arts, sciences, and manufactures. There was a period when the application of this science was viewed as connected with witchcraft; and GILES GOBLIN, of France, was supposed to be possessed of the devil, when he succeeded in fixing a scarlet dye on wool; but I assure you, that you will not be accused of having any dealings with "Old Nick," should you discover the mode of fixing the coloring matter of the *phytolacca decandria*, or any other vegetable red on cotton. I will dwell no longer on the importance of chemistry; it is a branch of science which devolved on me, in this institution, in consequence of my connexion with the college. Delicacy prevents me from saying or promising much, as to the manner in which this subject will be treated. I have now given you an outline of what may be considered the alphabet of our profession. I have reserved the consideration of the practice of medicine to this period of my discourse, though of the highest importance, to give me an opportunity of closing with a few general remarks connected with a medical education.

THE PRACTICE OF MEDICINE

May be considered a system of doctrines and rules for the preservation of health and the cure or alleviation of disease. It consequently teaches the application of those precepts derived from the study of the various other branches of medical science which I have enumerated, and to which I would add, physical geography, medical topography, natural history, and a general knowledge of hydraulics, hydrostatics, pneumatics, optics and mechanics, as essential to the well-educated physician and surgeon. Drawing would likewise be an accomplishment of great utility, to enable you to delineate morbid structure and botanical specimens. Indeed, I do not think that a young gentleman engaged in the study of medicine and surgery, could employ a leisure hour to more advantage than in practising the art of drawing and coloring, by which he may make himself acquainted with the relative position of the parts which have been dissected, and on which he may be called to operate. The delineation of all morbid structure, whether of the bones or soft parts, would be highly useful to him, inasmuch as the outlines would indelibly fix in his mind the relative situation and connexion of the sound and diseased parts.

If he pursues the study of botany, and that he ought there can be no doubt, it will enable him, in his summer excursions, to preserve the form and color of the plants which he may collect ; which, with his *hortus siccus*, will not only enable him to cultivate this branch of science with advantage to himself, but he may become an efficient instructor of others. Medical botany has not received that attention in our country which its importance demands.

There is no short road, gentlemen, to acquire a medical education ; the avenues which lead to it are numerous and intricate ; the study of the various branches which I have enumerated, requires more time than is usually allotted in our country. You must banish from your minds the idea of becoming competent to discharge the duties of a physician or surgeon, in less time than three years of instruction, and, I will add, of close application.

If I possessed the power, no man should be permitted to enter on the exercise of the profession, who has not been engaged in studying the various branches at least five years ; and, even after that period, the life of a conscientious practitioner should be a life of *study*, *research*, and *reflection*. It is true that, in a few months, a student may learn to bleed and to apply cups, without any knowledge of the rationale or the necessity of the operation ; the untutored negroes of Africa do this with a gourd ; he may carry jalap in one pocket and calomel in another ; and, perchance, tartar emetic and some few articles in a snuff-box, without any knowledge of their general operation on the system ; and he might answer, as Moliere's medical candidate, if he could understand the question, "*Cur opium facit dormire ? Quia habet vim dormitivam,*" and his ratio medendi would be equally limited. I call upon those who have entered on the study of the profession, which has been considered one of the most honorable, to retrieve its falling character in this country. This must be effected by a close application to your studies and a sincere desire to become distinguished in your professional career ; it is not to be effected by artful cheating, under the mask of wisdom, the cloak of gravity or sanctity, the pensive look or the supercilious air. Even in Europe, wigs and spectacles, a peculiar garb and a small sword, no longer shield men from the penetrating eye of the public. I have seen a court physician, with all these paraphernalia, ignorant of the dose and operation of *digitalis purpurea*.

To those of you who aspire to a seat in the temple of fame, I would recommend an attention to ancient and modern medical literature. Paris is, at present, the site where physicians and surgeons are contending for reputation and eminence. The state of the popu-

lation in France, fills the public hospitals with diseased paupers, who afford an opportunity for that experimental inquiry with which the press has of late years teemed, and from which a succession of practical works have issued. There is a host of laborers now in the vineyard of medical science, whose influence ought to be no less animating by example, than the intrinsic value of their contributions to our stock of knowledge. To enable you to consult the publications in which morbid phenomena are portrayed and the remedies applied, I would advise you to become acquainted with the French language. An opportunity is offered in this place, of making yourselves masters of this language by allotting an hour daily with professor DUCOUDRAY HOLSTEIN, of this college; you need not pursue the routine of a school-boy, to acquire information, but commence under him, by reading and translating Pinel, Bischat, Brouissais, Thenard, or any other French medical work of reputation; whilst he corrects your translation, you will be enabled to compare the opinions of the French, English and American schools of medicine: probably some new idea may be elicited by the study of the French authorities. In fact, could you accomplish it, you would be well rewarded by acquiring from him a knowledge of the German language, to enable you to read the productions of Mekel, Hufeland and others; and, being acquainted with the Latin, you would very soon understand the Italian works, Tomassini, *Lezioni critiche di Fisiologia e Patologia, Brera sopra i Vermi, &c.* I am sensible, as I have already stated, that the time usually allotted for a medical education in this country, is by far too short to become an educated physician; but you must remember that you are now only laying the foundation on which you are to erect the future superstructure: there is not a medical or surgical work in any language, from which you may not cull important facts or receive some useful hint; and although you may have been advanced in life when you commenced the study of medicine, without having acquired a regular collegiate education; with a knowledge of the Latin, you may, by industry, perseverance, and a proper division of your time, acquire most of the modern languages, to enable you to comprehend their meaning. I do not recommend to you to become linguists; the study of medicine does not positively require that you should have had a liberal education, in the usual acceptation; but this I do contend for, the more you know of every branch of science, by so much the more will you be held in estimation among the learned of the profession and of the world; and I assure you that, by a persevering industry, much may be overcome; which will enable you to think for yourselves and to abandon the routine of practice. Your

views must be extended beyond "text-books and oral communications." Cast your eyes over the old "*worm-eaten authorities*," and you will often be astonished to find many *modern* opinions in an old-fashioned dress. Were it proper, on the present occasion, I could trace many opinions which are called new, in the various branches of *our* profession, and, indeed, of other professions, to those authorities : but I must pause : "Sterne long since remarked, that authors made books as apothecaries make mixtures, by decanting from one bottle to another." It is true that much "rubbish" has been cleared away, but in performing that herculean task, may not some particles of precious metal, some small specimens of crystallized carbon, have been included ? By reading a few of those old authors, you will be enabled to form a correct opinion of the real progress which has been made in our profession. I was present when a discussion took place between a physician of the old school and one whose knowledge did not extend beyond the "text books" of the day ; the former gravely asked him if he had ever read Hippocrates in the original, or Aretæus or Celsus ? Being answered in the negative ; then, sir, it is useless for me to continue the discussion with you, as you do not appear to have had a regular medical education. This was a severe rebuke. It is true that many can neither read the Greek nor Latin authorities : this ought not to be an excuse ; when ignorant of these languages, a student should refer to the best translations, to enable him to trace the progress of science and compare it with the era in which he lives ; he will then learn whether we have in reality become more wise or learned in *every* branch of our profession, or more successful in practice.

Doctor RUSH used to name twelve authorities, whom he called the twelve apostles in medicine. I do not recollect whether he included CELSUS, RIVERIUS, LANCISI, DIEMERBROECK, BOTALLUS and MAURICEAU ; but in these, you will find many valuable hints. CELSUS lived at Rome, during the reign of Augustus and Tiberius. His system of medicine and surgery rivalled the first of antiquity, and it is stated that his genius prompted him, likewise, to write poetry, rhetoric, and on tactics and agriculture. Be this as it may, you will discover in his works that he was not unacquainted with physical geography and medical topography : pages might be filled with the minutæ of his valuable observations : suffice it to say, that in his works you will find many remedies and practical remarks, which are extolled even at the present day. In cholera, he applied cups to the region of the stomach, and sometimes sinapisms ; his surgery contains all the improvements from Hippocrates to his own time ; such was the esti-

mation in which it was held, that a modern surgeon exhorts every man of the profession, "to keep CÆLUS in his hands by day and by night." He was a close observer of the morbid and salutary effects of the seasons, and of the diseases which predominate in the different stages of life.

In RIVIERUS you will find some important hints on the treatment of cholera and fevers. In an epidemic which prevailed at Montpelier, in 1623, he states that an old and experienced surgeon, emboldened by his presence, took three ounces of blood from a patient and the pulse rose—he conceiving that the great weakness of the pulse was rather from oppression; and to ease nature of the load with which she was oppressed, a vein was opened. He likewise directs balls of ivory, marble or of metal to be held in the hands, and cold applications to be made to *conduct* off the heat of febrile patients; he likewise directs the *pavement* of the chamber to be sprinkled with various articles which, by evaporation, will render the air cool and agreeable. (There were no Brussels' carpets used in chambers in those days.) Mercurius dulcis, gamboge and scammony were freely used; "seeing," as he says, "that they doth potently evacuate, they do often pluck these kind of fevers away by the roots;" and he makes a distinction between cholera depending on the *ingesta*, which is less dangerous, than when from, or adjoined with, malignant fever, which brings on sudden death. He likewise recommends blood-letting in difficult parturition, which, however, he takes from Hippocrates. In gout, he frequently recommends infusions containing hermodactylus, a remedy now in high repute under the name of colchicum autumnale.

In that part of DIEMERBROECK which refers to practice, (his anatomy I have not looked over with attention,) you will find that he bled freely in malignant fevers,* and he prescribed mercurius dulcis, in twenty grain doses, to children of six years of age;† he likewise directed blisters to discuss buboes‡ and in the treatment of anthrax.§ In a lecture by Dr. SMITH, in 1757, blisters to erysipelas are recommended.||

In LANCISI, you will find much on the subject of the cause of pestilential fevers, especially "de noxiis paludum effluvii," which I must pass over: and in BOTALLUS¶ a great deal on the subject of blood-letting. I believe him to have been one of the most sanguinary physicians of his day.

* Page 24. † Page 118. ‡ Page 250. § Page 186. Edition 1685. Opera omnia, &c. Isbrandi Dicmicrebroeck.

|| Smith's Lectures. This has been attributed to a German practitioner, Dr. Pfeiffer of Philadelphia.

¶ Botalli Leonardi opera omnia, medica et chirurgica, Lugduni Batavorum, 1660.

In MAURICEAU you will meet with many highly interesting cases in obstetrics; his one hundred and eighty-first aphorism you would do well to remember. "*La Saignée du bras faite a la femme qui a un labourieux travail, luy est très-utile pour la faire accoucher plus promptement et plus heureusement, et pour la preserver de trop grande perte de sang ou de convulsion.*" This work was published in 1721. I forbear trespassing further on your patience: all that I have quoted has been claimed, as original, by some of our countrymen. It was long since remarked by Dr. RUSH, in one of his lectures, that few physicians read after they enter into business, and still fewer profit by their observations. It is from the neglect of these two sources of medical knowledge, that we consider so many cases as new, that have existed a hundred times before, and with which our medical journals are filled. Therefore, those who do read, evidently have the advantage over those who do not. I wish to impress on your minds, that we are indebted either to hints in ancient works or accident, for many brilliant discoveries in the various branches of science, which are deemed of great importance to mankind. "However long facts may appear to lie in a confused and solitary state, they will, sooner or later, unite in that order and relation to each other which was established at the creation of the world." And as our celebrated professor RUSH, long since justly remarked, "that from the union of pre-related truths, will arise, at some future period, a complete system of principles in medicine."

"We are but of yesterday, and know nothing,
Because our days on earth are but a shadow."—*Job*.

I might multiply examples of discoveries and improvements, but I trust that I have said sufficient to induce you to attend to the hints which you may receive from worm-eaten pages and accidental discoveries, which may in one age be considered as trivial, but of immense importance to that which follows: perhaps potassium and sodium, at present objects of curiosity, may, at some future period, be considered of as much consequence as the metals to this generation; therefore, you ought not to reject hints because they are connected with what has been called "learned rubbish," or found in worm-eaten authorities. Remember that, as late as 1762, SULTZER amused himself with the junction of two metals above and under his tongue; and the effect, though announced, did not attract attention until GALVANI and VALLI instituted a series of experiments on the human body, which were attended with many curious results, and which probably gave to VOLTA the first idea of his pile, and subsequently to the improvements which were made in Europe. The substances

which we call earths, are all probably metallic oxides ; this was an old German idea, and TONDI and RUPRECHT, in some measure, confirmed it, by obtaining "metallic reguli" from chalk and some other earths ; and if my memory be correct, the alkalies were *supposed* metallic, in the time of BACON and BOYLE ; I have not, however, their works for immediate reference ; but proper instruments of research, on which the proof depended, were not in existence until the time of Sir HUMPHREY DAVY. Our countryman, professor HARE, of the University of Pennsylvania, whose genius improves almost every apparatus of research, has presented to the scientific inquirer a modification of the instrument used by Sir H. DAVY, whose power is far superior, and which will enable the analytical chemist to pursue these researches still farther. With this instrument, it may be truly said that our experiments blind us by the excess of light which emanates from them. Thus, that which afforded amusement to SULTZER, has not only been applied to discover the base of potash, soda, lime, magnesia, and to *confer magnetic influence*, but with success in resuscitating those who were apparently asleep in the arms of death.* Again, we are indebted to accident for our knowledge of electricity. Who would have supposed, on seeing a person amuse himself with the effect of excited amber on light bodies,† that it would become the first link of a science which would teach man to disarm the clouds of their electricity, divest the storm of its terrors, and become a powerful remedy in disease ? Man had been accustomed to view with horror the portentous cloud and the vivid flash, by which palaces, castles, temples and humble dwellings were prostrated ; but our countryman, Dr. FRANKLIN, disarmed the thunder-cloud of its terrors, and conducted to his feet, the vivid lightning, in harmless coruscations. Again, when Mr. CAVENDISH published the account of the production and properties of hydrogen gas, no one had the most distant thought that men would employ it to journey into the ethereal regions, on parties of pleasure and discovery, or to reconnoitre the strength and manœuvres of an army ; yet Guyton de Morveau ascended with General Jourdan, during the battle of Fleures, which materially influenced the success of the French arms. And let it be remembered that the magnet was known nearly two thousand years before it was applied to any purposes of practical utility : guided

* This effect may be exemplified in an amusing manner before a class, by immersing a mouse in a jar of carbonic acid gas ; when life appears extinct, place him on a table, apply volatile alkali to his nose and at the same time bring the negative and positive wires of a small galvanic trough to act between the region of his heart and head : he will revive, and by continuing the application, he will rise and spin round on his posteriors like a top, when by a sudden action of his muscles he will spring from the table and run off.

† This has been attributed to Thales of Miletus, who flourished six hundred years before the Christian era.

by the mysterious power of magnetic polarity, Vasco de Gama and Columbus became the pioneers to this western world, which has risen to such unexampled eminence amongst the nations of the earth. May not the hints given by BOETIUS DE BOOT, seventy years before the appearance of NEWTON's Optics, have suggested the combustibility of the diamond? Most of the fabulous history of the planets is based on reality, though communicated to us by old authors in hieroglyphic mystery, from the time of the Chaldean shepherds to the discoveries of HERSCHEL. And who would have supposed that the accidental fusion of sand with an alkali, recorded to have happened on the shores of the Belus, would have furnished a transparent substance that would finally enable us to discover myriads of insects banqueting on the leg of a flea; and, as Doctor JOHNSON has justly remarked, that in such a shapeless lump should lay concealed so many conveniences of life, as would in time constitute a great part of the happiness of the world? By this fortuitous discovery, the philosopher has been enabled to extend his sight to new ranges of existence, supply the decays of nature, and succour old age with subsidiary sight. Time admonishes me to bring this discourse to a close; numerous examples might be adduced, to prove that we have been benefitted by the record of accidental discoveries and hypothetical suggestions, made by old authors, in the arts, sciences and manufactures, to which we should never be inattentive, although presented to us in the homely garb of past centuries. Even the experimental inquiry of the Marquis of WORCESTER, in 1663, on the power of steam, was considered visionary, and his "Century of Inventions" ridiculed; and yet, through a succession of time and improvements, it is to that power we now owe the facility of navigating our most rapid streams; and the man who first conceived the idea of propelling boats by this power, was, *in my time*, deemed a fit subject for a lunatic asylum; though partially successful, he reduced himself to poverty and died in obscurity, whilst the more fortunate FULTON established a name which will be transmitted, with gratitude, to posterity. Such is often the fate of those who lay the foundation of important discoveries: they pine in penury, whilst thousands amass fortunes by the application of

* "Si l'on fait chauffer le mastic et le diamant, et qu'on les applique l'un contre l'autre, ils contractent une parfaite union, qui n'a lieu avec aucune autre gemme; mais pourquoi le diamant est-il le seul qui ait cette propriété? Je pense, dit-il, que cette conjonction intime et mutuelle, vient de la ressemblance de leur matière et de leurs propriétés, c'est à-dire de la nature entière de l'un et de l'autre. Ainsi donc, quand le mastic, qui est d'une nature ignée, s'unit si facilement au diamant, c'est à cause de l'identité de leur substance, et parce que la matière du diamant est elle-même ignée et sulfureuse; et que l'humide radical et générateur, qui a opéré sa coagulation, étoit parfaitement huileuse et ignée, tandis que celui des autres gemmes est aqueux; il n'est donc pas surprenant que la substance grasse, huileuse et ignée du mastic, puisse lui être appliquée aussi intimement, et non aux autres gemmes." [Boetius de Boot *Gemmarum et Lapidum Hist.* Lugd. Bat. 1636, in-8. Lib. II, Cap. I.]

their ingenious suggestions. Such was the fate of FITCH, whose family, if living, should be rewarded with something more tangible than a nation's gratitude.

Finally, gentlemen, in the profession which you have chosen, much is expected from *you*. Should you be inattentive to the branches of science which compose a medical education, you will feel, *poignantly feel*, hesitation, anxiety, and much apprehension, when you are about to assume the responsibility of a practitioner of medicine and surgery; you will then probably look back to the golden days which have been spent in apathy or in trivial pursuits. I hope that this will not be the case with any of you; if it should, I trust that your teachers will have the firmness to withhold the honors of this institution: a diploma is not worth possessing, if obtained by special favor, either in the arts or sciences. I have a higher opinion of the value of a diploma, than to bestow it where merit cannot claim it. The *true* dignity of the medical profession must be maintained by superior learning and abilities, by liberality of conduct, by openness and candor, without condescending to mean artifices, which are too often adopted to obtain business or a false reputation. You must encircle yourselves with the cardinal virtues, and bid defiance to all secret machinations of illiberal minds; shielded by a liberal medical education, and by a conscientious discharge of those duties acquired by a life of study and correct deportment, you may bid defiance to the malevolent shafts of ignorance.

I congratulate you, gentlemen, that it is not necessary, as formerly, to cross the Atlantic to seek the temple of Apollo; there is scarcely a state in this Union, where such a temple is not now erected; and the time, probably, is not far distant, should nothing impede the march of our enterprising citizens, when some of you may be called to lay the foundation of another, beyond the Rocky mountains. In this country, genius, though in poverty, is not excluded from these temples; encouragement is given, and the door of emulation is open to all who may soar above empiricism. It is, therefore, unpardonable for any man to assume the responsibility of a physician, who is ignorant of the first principles of a medical education, when they can be obtained with so much facility and at so small an expense.

Permit me to advise you, gentlemen, to form a medical association in Geneva, for mutual improvement, and endeavor to emulate the literary character of her namesake in Switzerland; sparks of truth may be kindled by the collision of genius. Such an association will promote a spirit of inquiry. In your discussions, you may not only examine and controvert the opinions of each other, but those of your

teachers; which will remove the impression that "colleges are the dull repositories of exploded opinions."

Although no tablets will be suspended on our walls, to record diseases, wonder-working remedies and miraculous cures, for the comparison of those who seek relief; yet, I trust that the general information which you will acquire on all the branches of medical science, will lay the foundation of your future usefulness as physicians and surgeons, and that the success of your practice will entitle you to the compliment which Cicero paid to those who imparted health to their fellow-beings: "*Homines ad Deos nulla re proprius accedunt, quam salutem hominibus dando.*" To participate in this honor, you must frequently reflect on the importance of the profession which you have chosen; and I would have you remember, before you enter on the exercise of it, that no pecuniary compensation can be an equivalent for the solicitude and mental excitement which you must frequently suffer in the exercise of your duty; which will lead you to the abodes of penury and riches, where disease makes no distinction. Poor, indeed, is the rich man, when deprived of health; the ambitious are prostrated and the tyrant is tamed; even the courage of a Cæsar is annihilated by disease.

"He had a fever when he was in Spain;
And when the fit was on him, I did mark
How he did shake.
His coward lips did from their color fly;
Aye, and that tongue of his, that bade the Romans
Mark him, and write his speeches in their books,
Alas! it cried, give me some drink, Titinius,
As a sick girl."

And fortunately for him, he had a Titinius to administer a cooling draught. It may be your lot to witness, in the abodes of wretchedness, many deprived of every comfort, destitute of the kind aid of a friend, pining away under disease, poverty and distress, to whom a cup of water would indeed be a luxury. Such cases you may not meet with in this section of country, where there should be no poor; but in the bye-ways, alleys and cellars of large cities, such scenes become familiar to practitioners of medicine.

To conclude: I trust that the addition which has been made to Geneva College, will acquire the confidence of the community. As to the characters of the individuals who have been appointed as pioneers in this new department, it does not become me to notice; it is sufficient to say that, having undertaken the important duties allotted to them, they will conscientiously perform the trust with fidelity.

Unaided by those rich endowments which are common in European schools, they commence this course of lectures on their private

resources, resting their future support on a friendly and enlightened community. Rivalry has had no share in the determination to form this institution; public good, and a laudable emulation to advance the cause of science, by disseminating those truths which have been acquired by reading, reflection, and many years of practical experience, have been their primary objects. Being convinced that the importance of a medical education is duly appreciated by every liberal mind, they enter on their respective duties with a confidence that they will be sustained by a discerning and enlightened population, not only of western New-York, but of the adjoining states; and in the words of the late professor RUSH, "I bid you, gentlemen, welcome to our school of medicine; the door you have entered and the room which you occupy, are devoted to science and humanity."



